

ADVANCED UMTS SYSTEM OVERVIEW

WITH MULTI OPERATOR CORE NETWORK

“Very interesting and educational, very competent trainer!”
– Conny Persson, IP Specialist, Telenor Sweden

Course Description

The course gives a detailed description of post-R99 system architectures, their configuration options and additional features. Furthermore, multi-RAB options, Flexible Iu configurations for MOCN and pooled SGSN/MSCs, as well as the new features like PCRF and IP enabled QoS across the UMTS core and radio infrastructures are described. Finally, the evolution of UMTS and its relation to 4G/LTE is described shortly.

Content

Post-R99 UMTS system architecture

- Softswitch based core network domain
- 3G Direct Tunnel for the PS domain
- Pooled SGSN and MSC resources
- HSDPA and HSUPA impact on UTRAN and CN

PS CN domain

- Principles for end to end IP connectivity in UMTS
- The use of APN, secondary PDP context and service aware control in PS CN domain
- International roaming and operator interconnect
- Dependencies between UTRAN and PS CN



CS CN domain roaming

- Mobile softswitch implementation with MSC servers (MSC-S) and Media Gateways (MGW)
- End-to-end call setup examples in CS domain
- CS transcoding, International roaming and operator interconnect
- Dependencies between UTRAN (RNC)and CS CN

Protocols and functions for IP based interfaces in UMTS

- Iub/Iur interfaces for control and user planes
- Iu and intra-CN interfaces for CS and PS core domains
- SIGTRAN implementation in UMTS
- Requirements on Iu interfaces for Multi Operator CN implementations

UMTS QoS and traffic separation for IP transport

- Matching the UMTS QoS classes with IP traffic classes
- DSCP mapping and UMTS node classification requirements
- Priority, packet loss and delay requirements in traffic separation

Radio Access Bearer types and their QoS relation

- Be Conversational, Streaming, interactive and Background RAB capabilities
- Multi-RAB concept and implementation options in UTRAN and UE
- Service level examples using Multi-RABs

Implementation of MOCN, Multi-Operator Core Networks

- MOCN configuration options with flexible Iu on ATM and IP transport
- Iu CS/PS configurations in RNC and MSC/SGSN
- Dependencies between flexible Iu, 3G DT and pooled CN resources
- National and International roaming scenarios using flexible Iu (2G-3G and 3G-3G)

Evolution of UMTS and 4G/LTE

- HSPA+ and above: introducing MIMO, Dual Carrier WCDMA and VoIP
- 4G/LTE: what is new and what remains: upgrade paths and new radio standards
- Abandoning CS Domain technology while maintaining existing service portfolios

End to end service considerations

- Discussion on important issues determining the end to end service quality

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Target audience

The course meets the requirements from experienced professionals, dealing with operational and planning aspects of the UMTS radio-, core- or transport level..

Pre-requisites

The participants should have a good understanding and working experience from WCDMA and GSM Systems.

Course length

2 days

Widermind communicates the knowledge you need to develop and implement new technologies for current and future network operations. Our clients are telecom operators, system integrators, system suppliers and consultancy firms.

Based in Stockholm, Sweden, we develop courses backed by a comprehensive network of associates. Our instructors employ technical and pedagogical skills that have made Widermind training well known and appreciated as one of the best services in the field.

You are warm welcome to contact our representatives at:

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